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10/583,080	06/15/2006	Kazunori Ozawa	Q95540	9189

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,080	OZAWA, KAZUNORI	
	Examiner	Art Unit	
	THOMAS A. CONWAY	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *37-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *37-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/29/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's response to the last office action filed 4/27/2009 have been entered and made record of.

2. Applicant's amendments of claims 56 and 57, filed on 4/27/2009 have been entered and made record of. Claims 1-36 had previously been cancelled.

3. In view of the Applicant amendments, the rejections of claims 56 and 57 under 35 USC § 101 is expressly withdrawn.

4. The previous IDS filed 6/15/2006 and 9/26/2006 have been fully considered by the Examiner.

Response to Arguments

Applicant's arguments with respect to claims 37-57, filed 4/27/2009 have been fully considered but they are not persuasive.

5. **Regarding claim 37**, the Applicant submits particular details of Fogg's restoration method as well as particular advantages of utilizing Fogg's advanced decoder (Remarks, pg 15, Sec. III, A, ¶ 2: "edge detection and superresolution"). The Examiner would like to remind the Applicant that these are only two stated advantages of Fogg's decoder, which can more generally include "a wide variety of other enhancements" (Col. 3, ln 59-60), including "advanced standard-compliant decoding

and enhancement processing" (Col. 4, ln 37-38), the advanced decoder of Fogg uses MPEG as a codec standard (Col. 7, ln 4-7), which allows for frame reconstruction using forward and backward frame references (Col. 7, ln 51 - Col. 8, ln 2).

The Applicant reviews particular steps of Fogg's and then offers up that Fogg fails to disclose the claimed invention since Fogg restores a "current frame" (Remarks, pg 16, ln 6-7). The Examiner is unsure how reference to a "current frame" as to Fogg's method distinguishes the Applicant's claimed invention. Any frame being restored using a forward or backward frame as reference can be considered "current" in that it is currently being processed. There are no particulars in the claim language that distinguishes the image being restored as current or not. The MPEG standard is well known to be used to reconstruct missing or corrupted frames using this type of forward and backward prediction.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., other than "current frame") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The argument as presented by the Applicant is not persuasive and the rejection of claim 37 should stand.

6. **Regarding claims 38, 45, 46 and 54-57**, the Applicant's argument is that the preceding reasoning presented by the Applicant regarding the patentability of claim 37 and the instant claims' analogous features make these claims patentable. As previously stated, the argument with regards to claim 37 was not persuasive and the original rejection of these claims should stand.

7. **Regarding claims 39-44 and 47-53**, the Applicant's argument is that the preceding reasoning presented by the Applicant regarding the patentability of claims 37, 38, 45, 46 and 54-57, and the instant claims' dependency make these claims patentable. As previously stated, the argument with regards to claim 37 was not persuasive and the original rejection of these claims should stand.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Fogg (US Patent No. 6,466,624 B1).

8. **Regarding claims 37, 54 and 56,** Fogg discloses a moving picture reproducing apparatus comprising: a decoder for receiving a bitstream, obtained on compressing/encoding a moving picture, and for restoring a picture image from said bitstream (Col. 3, lines 54-55); a characteristic parameter extraction unit for extracting a characteristic parameter from the picture image restored (Col. 7, lines 44-50); and a picture reconstruction unit for carrying out preset processing, using a temporally past characteristic parameter and/or a temporally future characteristic parameter, for restoring a picture image which has not been received (Col. 7, lines 52-61; See Also Fig. 2a) and a computer program for causing a computer to perform the said tasks (Col. 10, lines 43-54). While Fogg doesn't explicitly make mention that reconstruction is being done for the purpose of a reconstructing a skipped frame, it is well known in the art that this type of image decoding is useful both as a compression method and to improve error resilience. Forward and backward prediction is known to be used to reconstruct damaged or missing image blocks.

9. **Regarding claim 39,** Fogg discloses a moving picture reproducing apparatus, wherein said characteristic parameter extraction unit is provided in said picture reconstruction unit (See 606 in Fig. 10a), said picture reconstruction unit dividing the picture image into a plurality of blocks, each being of a preset small size (Col. 7, lines 55-56), extracting a characteristic parameter from the picture image restored, in at least one of said blocks (Col. 16, lines 1-5), deciding on whether or not preset processing is to be carried out, with the use of a temporally past characteristic parameter and/or a

temporally future characteristic parameter, and subsequently restoring a picture image which has not been received (Fig. 2a, See "Pa(m)", "Pb(m)" and block 206).

10. **Regarding claim 41,** Fogg discloses a moving picture reproducing apparatus, wherein said picture reconstruction unit carries out interpolation, using at least one of a temporally past characteristic parameter and a temporally future characteristic parameter, along the time axis, to subsequently restore a picture image which has not been received (Fig. 2a, see combiner 207).

11. **Regarding claim 43,** Fogg discloses a moving picture reproducing apparatus, wherein said picture reconstruction unit includes said characteristic parameter extraction unit (Col. 7, lines 44-50), said picture reconstruction unit dividing the picture image into a plurality of blocks, each being of a preset small size (Col. 15, lines 8-10, "block decoder"), extracting a characteristic parameter from the picture image restored, in at least one of said blocks (Fig. 10a "Reconstr. Frame Data", See also Col. 16, lines 1-6), deciding on whether or not interpolation along the time axis is to be carried out, with the use of at least one of a temporally past characteristic parameter and a temporally future characteristic parameter, and subsequently restoring a picture image which has not been received (Col. 8, lines 9-18: "g(k)" is result of interpolation/combining at block "207", which is dependent on the "MPC" which is dependent on both the current frame and the forward reference frame information (generated at "202" and "251", respectively)).

12. **Regarding claims 38, 55 and 57,** Fogg discloses a moving picture reproducing apparatus comprising: a decoder for receiving a bitstream, obtained on compressing/encoding a moving picture (Col. 3, lines 54-55), decoding at least one characteristic parameter from said bitstream, outputting the characteristic parameter decoded, and for restoring a picture image, using the characteristic parameter decoded (Col. 7, lines 19-27); and a picture reconstruction unit for carrying out preset processing, using a temporally past characteristic parameter and/or a temporally future characteristic parameter, for restoring a picture image which has not been received (Col. 7, lines 52-61; See also Fig. 2a) and a computer program for causing a computer to perform the said tasks (Col. 10, lines 43-54).

13. **Regarding claim 40,** Fogg discloses a moving picture reproducing apparatus, wherein said picture reconstruction unit divides the picture image into a plurality of blocks, each being of a preset small size (Col. 7, lines 55-56), decides on whether or not preset processing is to be carried out, in at least one smallsized block, with the use of a temporally past characteristic parameter and/or a temporally future characteristic parameter, and subsequently restores a picture image which has not been received (Fig. 2a, See "Pam", "Pbm" and block 206).

14. **Regarding claim 42,** Fogg discloses a moving picture reproducing apparatus, wherein said picture reconstruction unit carries out interpolation, using at least one of a

temporally past characteristic parameter and a temporally future characteristic parameter, along the time axis, to subsequently restore a picture image which has not been received (Fig. 2a, "207").

15. **Regarding claim 44,** Fogg discloses a moving picture reproducing apparatus, wherein said picture reconstruction unit divides the picture image into a plurality of blocks, each being of a preset small size (Col. 7, lines 55-56), decides, in at least one of said smallsized blocks, on whether or not interpolation is to be carried out, with the use of at least one of a temporally past characteristic parameter and a temporally future characteristic parameter, and subsequently restores a picture image which has not been received (Col. 8, lines 9-18 – see explanation regarding claim 43 above).

16. **Regarding claims 45 and 46,** Fogg discloses a moving picture reproducing apparatus comprising: a decoder, said decoder including: a decoding unit for receiving a bitstream, obtained on compressing/encoding a moving picture, decoding the bitstream received (Col. 3, lines 54-55), and for outputting quantized transform coefficients (Col. 7, lines 34-55); a inverse quantizer for carrying out calculations for inverse quantization on the quantized transform coefficients output from said decoding unit (Col. 7, lines 36-38); an inverse transformer for carrying out inverse transform, which is inverse to the transform carried out on an encoder side, on transform coefficients obtained on inverse quantization by said inverse quantizer (Col. 7, lines 36-38); an adder receiving said moving picture signal, obtained on inverse transform by said inverse transformer, at an

input end thereof (Fig. 2a, "T(m)", via the block decoder); and a motion compensation predictor for carrying out motion compensation/prediction on the moving picture signal, output from said adder, with the use of a characteristic parameter, output from said decoding unit, and for supplying the resulting moving picture signal to another input end of said adder (Col. 7, lines 44-57); said decoder outputting, as a decoder output signal, a moving picture signal obtained on summing, by said adder (Fig. 2a, "r(m)"), a moving picture signal output from said inverse transformer (Fig. 2c, "f(m)"), and a moving picture signal output from said motion compensation predictor (Fig. 2a, "P(m)"); a frame memory for storing a moving picture signal output from said decoder (Col. 7, lines 56-58); a characteristic parameter extraction unit for extracting a characteristic parameter from the moving picture signal output from said decoder (Col. 7, lines 52-59); and a moving picture reconstruction unit for receiving said characteristic parameter, receiving a temporally past picture and/or a temporally future picture from said frame memory, and for reproducing a moving picture frame, with the use of said characteristic parameter to output the moving picture frame reproduced (Fig. 2a).

17. **Regarding claims 47 and 48,** Fogg discloses a moving picture reproducing apparatus, further comprising a divisionintosmallsize block unit for receiving an output from said decoder (Fig. 9, "block decoder"), dividing a picture image restored into preset smallsized blocks, and for outputting demarcations of said smallsized blocks (Col. 15, lines 27-37); wherein said characteristic parameter extraction unit extracts a characteristic parameter in at least one of said smallsized blocks (Col. 15, lines 38-49),

outputs the characteristic parameter extracted (Col. 15, lines 48-49), decides, in at least one of said smallsized blocks, on whether or not the processing for restoring a moving picture is to be carried out with use of said characteristic parameter, and outputs a decision signal (Col. 18, lines 56-59); and wherein said moving picture reconstruction unit receives the characteristic parameter, results of decision and the information on the smallsized blocks, from said characteristic parameter extraction unit, receives a temporally past picture and/or a temporally future picture, from said frame memory, reproduces a moving picture frame, with the use of said characteristic parameter, and outputs the reproduced moving picture frame (Fig. 6, Blocks 604-609).

18. **Regarding claims 49 and 50,** Fogg discloses a moving picture reproducing apparatus, further comprising an interpolator for receiving an output of said characteristic parameter extracting unit for carrying out interpolation along the time axis using at least one of a temporally past characteristic parameter and a temporally future characteristic parameter (Col. 8, lines 9-18); wherein said moving picture reconstruction unit receives a characteristic parameter from said interpolator, receives a temporally past picture and/or a temporally future picture from said frame memory, reproduces a moving picture frame, with the use of said interpolated characteristic parameter, and outputs a reproduced moving picture frame (Col. 19, lines 50-59; See also Fig. 6, blocks 604-609).

19. **Regarding claims 51 and 52,** Fogg discloses a moving picture reproducing apparatus according to claim 45, further comprising a divisionintosmallsize block unit for receiving an output of said decoder (Fig. 9, "block decoder"), dividing a restored picture frame into a plurality of blocks, each being of preset small size, and for outputting demarcations of the smallsized blocks (Col. 15, lines 27-37); said characteristic parameter extraction unit receiving the information on the division into said smallsized blocks from said divisionintosmallsize block unit, extracting and outputting a characteristic parameter in at least one of said smallsized blocks (Col. 15, lines 38-49), deciding on whether or not the processing for restoration of a moving picture is to be carried out, in at least one of said smallsized blocks, with the use of said characteristic parameter, and outputting a decision signal (Col. 18, lines 56-59); said apparatus further comprising an interpolator for receiving the characteristic parameter from said characteristic parameter extraction/decision unit and for carrying out interpolation along the time axis, using at least one of a temporally past characteristic parameter and a future characteristic parameter (Fig. 2a, "207"); wherein said moving picture reconstruction unit receives the characteristic parameter, obtained on interpolation by said interpolator, result of said decision and the information on the smallsized blocks, receives a temporally past picture and/or a temporally future picture from said frame memory, reproduces a moving picture frame, with the use of said characteristic parameter and outputs the moving picture frame reproduced (Col. 19, lines 50-59; See also Fig. 6, blocks 604-609).

20. **Regarding claim 53,** Fogg discloses a moving picture reproducing apparatus, wherein said characteristic parameter is a motion vector (Col. 7, lines 25-27); and wherein said moving picture reconstruction unit performs, as interframe prediction, the motion compensation/interframe prediction, employing the motion vector, for reproducing a moving picture frame (Col. 7, lines 44-46).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jain et al. (Hiding Biometric Data, IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 25, No. 11, November 2003, page 1495) discloses a method of embedding facial feature vectors as a watermark in an image

using wavelet transform. Rey et al. (Blind Detection of Malicious Alterations on Still Images Using Robust Watermarks, In IEE Seminar: Secure Images and Image Authentication, 2000, pages 7/1-7/6) discloses a method of image based feature watermarking, extraction and authentication, including a step of restoring altered images using the embedded information. Li et al (When Eigenfaces are Combined with Wavelets, Knowledge Based Systems, Vol. 15, 2002, page 343, section 2) discloses various methods of image transforms and the reason why wavelet transform is preferred for feature detection of images.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS A. CONWAY whose telephone number is (571)270-5851. The examiner can normally be reached on Monday through Friday 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on 571-272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew C Bella/
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